

REMARKS

This is in response to the Office Action of March 16, 2007. Applicants gratefully acknowledge the indication of allowable subject matter in this application. The compound of formula (2) in claim 1 is restricted to an alcohol or a thiol. New dependent claim 8 is added, reciting a maximum amount of a base. See the paragraph bridging pages 23-24 of the specification ("From the viewpoint of yield of the target compound, the amount of a base in the reaction system in the process is preferably as small as possible and is, for example, preferably less than 0.001 mole." No subject matter is added by this Amendment. Claims 1 and 5-8 are pending in the application.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,578,740 ("Au"). Office Action, pages 2-3. Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Au reference in view of Kirk-Othmer. Office Action, pages 4-5. The rejections are respectfully traversed.

Au mentions many kinds of catalyst, including iridium. However, no examples using an iridium catalyst are found in the Au disclosure. Furthermore, all of the examples in Au use a base in amounts of more than 1.0 equivalents, and Au teaches that the base is employed more preferably in amounts of from 1.0 to 1.2 equivalents. Column 10, lines 22-25. The reaction conditions specifically related to catalyst and base of Examples 1 to 6 in Au are as follows:

	catalyst	base	[equiv.]
1	palladium on charcoal	potassium carbonate	1.05
2	palladium acetate	sodium hydroxide	2.19 (0.875/0.4)
3	palladium on charcoal	potassium carbonate	1.1
4	palladium acetate	potassium carbonate	1.09 (0.109/0.1)
5	palladium acetate	potassium carbonate	1.09
6	palladium acetate	potassium carbonate	2.4 (0.06/0.025)

The process described in Au uses an equivalent amount of a base as a raw material, leading to a basic reaction system. Compounds having a complicated structure, e.g., for use as perfumes, may often be decomposed in such basic reaction systems. Specification, page 1, lines 20-23. In contrast, the reaction of the present invention using an iridium catalyst can be performed with less than 0.001 moles of catalyst per 1 mole of the substrate. Specification, page 23, lines 15-16. Therefore, the present invention is not subject to the above problem. For example, a reaction according to the present invention using an alcohol which is sensitive to a base as a substrate can easily provide an allyl-containing compound under mild conditions in a high yield. Specification, page 18, lines 13-21.

Unlike the Au process, the process of this invention is highly versatile, and can efficiently produce a wide variety of allyl-containing compounds. Specification, page 3, lines 17-21.

Example 4 in Au and Example 10 of the present invention are performed under reaction conditions that include benzyl alcohol as a substrate and benzyl allyl ether as a product. Au uses a palladium catalyst and a base in an amount of 1.09 equivalent. The present invention uses an iridium catalyst in the absence of base. Example 4 of Au, which uses benzyl alcohol in an amount of 1 mole, yields 8.5 grams of a liquid which is consistent with the desired benzyl allyl

ether, for a yield of 0.057 mole, or 63%. In contrast, Example 10 in Applicant's specification provides a benzyl allyl ether yield of 82%. The presently claimed process invention unexpectedly provides a higher yield of desired product than does the closest prior art process!

The presently claimed invention provides has at least two benefits that are not provided by the Au technology. The present invention provides desired product in higher yield than does Au. The present invention does not require the use of a base, while Au does. Moreover – in any case – nothing in the Au reference or in Kirk-Othmer teaches or suggests conducting the reaction of an allyl ester with an alcohol or thiol compound in the presence of a catalytic amount of an iridium compound, as required by the claims herein. Accordingly, the references fail to establish a *prima facie* case of obviousness with respect to present claims 1 and 5-8.

Withdrawal of the rejections of record is in order and is earnestly solicited.

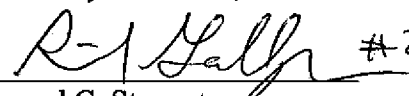
If there are any questions concerning this application, the Examiner is invited to contact Richard Gallagher, Registration No. 28,781, at (703) 205-8008.

No fees are believed to be necessary for this Amendment. If any fees are determined to be necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to

charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By  #28,787
Raymond C. Stewart
Registration No.: 21,066
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant